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DEVELOPMENT

PROGRAMME

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APPROVAL OF UNDP ASSISTANCE TO A PROJECT OF CHINA

IPF:(1992-96) $176 600 000

(CPR/91/171) - Support to the Corn Processing Technical Applications Research and Development in China

Date of approval by the AC:[1]	20 May 1992
Expected duration:	Four years
Proposed executing agency:	FAO
Government implementing agency:	Jilin Province Bureau of Light Industry; Corn Processing Technical Applications Research and Development Center (CPTARDC)
Proposed UNDP contribution:	$1 409 000 Source of funds: IPF
Government cost sharing:	$ 150 000
Total UNDP budget:	$1 559 000

Project background

With an annual production of about 70 million tons of corn, China ranks as the second largest producer of corn in the world and the Northeastern provinces accounting for about 70 per cent of total grain output. Jilin Province is the largest corn producer in the country with an average output of 12 million tons per year. Corn production is expected to continue growing in these provinces. China's Eight Five-Year Plan calls for increased grain production including Jilin Province becoming the major corn industry development area, with the strengthening of starch production and processing playing an important role in this plan. The strategy calls for increasing the value added of corn in its province of origin before marketing it to other regions. At present, however, it is estimated that about a million tons are currently wasted or lost. The corn processing industry is still unable of meeting the challenge of current and future markets for more application-specific starch products due, in a large extent, to the lack of adequate processing technology and to the little understanding of the foundations of corn wet-milling.

In Jilin, out of a total of approximately 30 mostly small and medium size factories only 4-5 are engaged in (very limited) secondary processing - not even the two medium-size plants operating with imported equipment make full use of all the by-products as is standard practice in developed economies. The strategy of the Government is to turn Jilin Province, by 1996, from simply the largest corn-producing area into the major agro-industry area based on corn with starch production and processing playing a major role in this. Rather than selling a low value-added product to other regions, through introduction of processing capacity, a higher value-added product will be shipped. Additionally, the processed starch

[1] **This Fact Sheet reflects the status of the project/revision at the time it was approved by the Action Committee; modifications to the project/revision may have occurred subsequently.**

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products are in high demand in industries such as paper, pharmaceuticals, textiles and food processing (as sweeteners), gasahol, animal feed, and others. The key to achieving this transformation of the corn processing industry is the introduction of appropriate know-how in the newly created Corn Processing Technical Applications Research and Development Center (CPTARDC) located in Jilin Province's Light Industry Design and Research Institute. This is the sole application-oriented R & D center based on corn in the country.

Description of project

The development objective of the project is to increase the industrial utilization of corn by institutionalizing the provision of R & D services to the corn processing industry, providing training for management and technical personnel on both provincial and national levels, and placing special emphasis on ensuring that the research carried out at the Center is tested in the market and responds to actual demand from the industry by including the starch industry association on the Project Coordinating Committee.

The immediate objectives of the project are to: (a) strengthen the CPTARDC to develop and transfer technology to the corn processing industry; (b) introduce know-how for improving corn wet-milling technology and by-products utilization; and (c) develop know-how through pilot manufacturing, for starch derived products with wide application in industry and with clear market prospects.

Using both external and national economists, the project will commence with establishment of a baseline economic and financial study of the options and opportunities in the sector addressing such issues as market, technology alternatives, environmental impact, pricing structure, and a basis for considering and attracting joint venture investments. Based on the study, decisions will be made as to the types of R & D, equipment and investment decisions that are needed, including consideration of the income which can accrue to the CPTARDC through provision of services to the industry. The training plan also will be developed following the analysis of the economic study. In implementing the project, consideration will be accorded to use of TCDC, UNISTAR and TOKTEN modalities whenever appropriate. The current percentage of women on staff is 46 per cent; and the project intends to target 50 per cent to be achieved through training opportunities.

Inputs

UNDP will provide eight work/months of CTA services to advise CPTARDC on research and management issues and corn product development, 12 work/months of international consultant services in corn wet-milling, starch applications for paper, oil well drilling, textiles, food, pharmaceuticals, pastes, sweeteners, fodder, quality control and other industrial uses, and market evaluation issues; national experts for testing and evaluation, funds for evaluations; 67 work/months for 14 individual fellowships in the same areas of expertise as the consultants; study tours; expendable equipment; non-expendable equipment related to a pilot and test operations in the same technical fields, computer and a vehicle; and miscellaneous costs.

Financial data

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Personnel	362 000
Training	388 000
Equipment	773 000
Miscellaneous	36 000
Total	1 559 000

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APPROVAL OF UNDP ASSISTANCE TO A PROJECT OF
GUYANA

IPF:(1992-96) $13 996 000

(GUY/91/011)- Assistance to the National Agricultural Research Institute (NARI) (Phase II)

Date of approval by the AC:[1/]	29 April 1992
Expected duration:	Two years
Proposed executing agency:	FAO
Government implementing agency:	National Agricultural Research Institute (NARI) Phase II
Proposed UNDP contribution:	$1 534 100
Total UNDP budget:	$1 534 100

Project background

Guyana's agricultural programme calls for significant agricultural diversification through the increased production of grain legumes, root and tuber crops, fruit and vegetable crops, to reduce the current dependence on rice, and sugar as agricultural export crops. In addition to the promotion of agricultural diversification, the Government is pursuing research into the adaptation of crops to other agri-ecological areas such as the intermediate savannas. Considerable investment has been finally realized (with assistance from the IDB and World Bank) into physical infrastructure such as roads, sea and river defenses, irrigation and drainage.

The National Agricultural Research Institute (NARI) was established in 1984 to plan, develop and implement research programmes to foster a greater extent of self-sufficiency and to establish an export capacity in food and fiber crops. Under the project (GUY/86/002), approved in 1988, the prime focus was placed on institution building. So far, a capability for research has been firmly established; high yielding rice varieties have been produced; techniques for tissue cultures were adapted; and large quantities of planting materials for sweet potato, pineapple, cassava and plantain have been produced and distributed to farmers. An evaluation of UNDP/FAO programmes in Guyana in 1990 concluded that the NARI project had essentially assisted in establishing a sound foundation of a scientific research capability in agriculture.

Despite significant user input into overall research orientation, strategy and capability of the extension systems were found to be sufficiently weak to militate against

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a rapid delivery of technology and research results to farmers. In light of this, the Government requested UNDP assistance under the present second phase.

Description of project

The development objectives of the project are to: (a) upgrade the capability of NARI to carry out effective and structured R & D programmes; (b) develop additional high yielding, well adapted, varieties of rice, root and tuber crops, grain legume crops, and fruit trees resistant to major diseases and pests; (c) consolidate the development and implementation of integrated pest management systems for economically important crops; and (d) re-organize the system of transfer of information to end-users, such as farmers, extension personnel, processors, exporters, and consumers.

The immediate objectives of the project are to: (a) strengthen cooperative ties with GUYSUCO (Guyana Sugar Corporation), which itself has diversified as a para-statal entity, into non-sugar crops; (b) concentrate on the production of adequate quantities of foundation stock of genetically uniform and healthy planting material of root and tuber crops and fruit trees through tissue culture techniques; and (c) further develop significant linkages with the private sector and increasingly involve farmers into the testing and dissemination processes. These efforts will also be aided under the project (GUY/91/010) Quality Seed Development and the National Extension System, to be financed under an IDB agriculture sector loan. This loan will generally focus on a significant and comprehensive strengthening of agricultural sector management, through such components as: land legislation, agricultural census, extension services, agro-industrial linkages, aquaculture, quarantine arrangements (particularly vis-a-vis Brazil), sea defences, coastal zone hydraulic structures management, drainage and irrigation, and sustainable agro-industrial activities for women and small entrepreneurs.

Strong links have been established with global agricultural research organizations, such as ICRISAT (International Crops Research Institute for the Semi-Arid Tropics), INGER (International Network for Genetic Enhancement of Rice), IRRI (International Rice Research Institute) and ICARDA (International Centre for Agricultural Research in the Dry Areas), CIAT (Centro Internacional de Agricultura Tropical) and with Caribbean research organizations, such as CAGRIS (Caribbean Agricultural Information System), CARDI (Caribbean Agricultural Research and Development Institute) and CRIN (Caribbean Rice Improvement Network).

Inputs

UNDP will provide a national project director (24 work-months), 12 professionals (288 work-months), 240 work-months of sub-professional level staff, 600 work-months of technical and support staff, a senior agricultural research adviser/team leader (24 work-months), a research/extension specialist (12 work-months), a rice breeding/genetics specialist (24 work-months), an integrated insect pest management specialist (12 work-months), weed control specialist (UNV) (24 work-months), a librarian/documentalist (UNV) (24 work-months), a plant pathologist (UNV) (24 work-months), a horticulturist (UNV) (24 work-months); training in botanical taxonomy, plant pathology, plant virology, horticulture, pedology and plant breeding; and equipment for motorized rolling stock and laboratory and testing equipment.

Financial data

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Personnel	943 500
Subcontract	15 100
Training	362 000
Equipment	204 500
Miscellaneous	9 000
Total	1 534 100